

REMARKS

Reconsideration of the above-identified patent application, as amended, is respectfully requested.

The drawings are objected to because 1) items (22) and (24) appear to point to the same thing in FIG. 1, 2) the difference between (22) and (24) in Fig. 2 is not clear, and 3) item (60) in FIGS. 2-5 is not mentioned in the specification. The drawings are also objected to under 37 CFR § 1.83(a) because they do not show "the flux coil leads coupling the flux coil to the monitoring device" as recited in claim 17.

Regarding item 1), applicants have attached hereto an annotated sheet showing changes (in red) made to FIG. 1. In FIG. 1, a horizontal line has been added through the item labeled (22) and (24) to distinguish item (22) (the magnetic component) from item (24) (the flux path closure device). This horizontal line is positioned relative to items (22) and (24) in a manner that is consistent with existing FIGS. 2-5. No new matter has been added by this change to FIG. 1. Applicants have also attached hereto a replacement sheet that replaces original drawing page 1 showing FIG. 1.

Regarding item 2), applicants have attached hereto an annotated sheet showing changes (in red) made to FIG. 2. In FIG. 2, the reference character (24) and its associated connecting line have been deleted, and the reference character (20) located just above "FIG. 2" has been changed to (24). This designation is consistent with applicants' FIGS. 3-5, and identifies that the component with the dashed-line cross hatching is component (22) (the magnetic component) and that the component with the solid-line cross hatching is component (24) (the flux path closure device). No new

matter has been added by these changes to FIG. 2. Applicants have also attached hereto a replacement sheet that replaces original drawing page 2 showing FIG. 2.

Regarding item (3), various paragraphs of applicants' specification have been amended herein to identify items (60) as the terminals of the excitation coil (26). These amendments are consistent with the paragraph on page 9, lines 4-11 of applicants' specification and with applicants' original FIGS. 2-5. In particular, applicants specification at page 9, lines 4-6 originally read "Ends of excitation coil 26 constitute terminals to which excitation leads 62 are coupled. In the illustrated embodiment, excitation leads 62 are wires extending between terminals of excitation coil 26 and excitation signal supply 28." In applicants' FIGS. 2-5, it is clear that the excitation leads labeled (62) are each coupled directly to an item labeled (60). It necessarily follows that items (60) are thus the terminals of the excitation coil (26). Accordingly, no new matter has been added by applicants' amendments to the specification.

Regarding the objection to the drawings under 37 CFR § 1.83(a), applicants' have herein rendered this objection moot by canceling claim 17. No currently pending claim recites the limitation "the flux coil leads coupling the flux coil to the monitoring device."

Claims 1, 15 and 17 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0163330 to Sekiya. Claims 2-14, 16-17 and 18-24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sekiya in view of one or more of Burd (WO 02/097424), Spencer (2004/0152261), Lavan Jr. et al. (5,729,134), Juds et al. (4,922,197), Pearson (2002/0179830), Lysen

(4,804,912), Linder (4,475,083), Rossi et al. (2002/0084777) and Singer et al. (6,314,473).

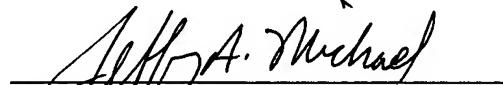
Applicants have herein canceled claims 1-24, and have submitted newly presented claims 25-45 for substantive examination. New claims 25-45 are fully supported in applicants' specification, and no new matter has been introduced by these claims.

Applicants' submit that the § 102(e) and § 103(a) rejections of claims 1-24 are addressed by, and are not moot in view of, applicants' new claims 25-45. For example, applicants' new independent claim requires computation of an effective resistance of the excitation coil as a function of the voltage across, and of the current through, the excitation coil. None of the cited references show, disclose, teach or suggest this limitation. Rossi et al. discloses at pp. [0032] that a flux value can be calculated as a function of current through a coil, voltage applied to the coil, number of turns of the coil and the resistance, RES, of the coil. However, Rossi et al. clearly state that RES is a given or measured value of the coil resistance, in contrast to an effective resistance value computed as required by applicants' claim 1. Singer et al., on the other hand, disclose at col. 41, lines 14-36, that a resistance value can be estimated as a function of a number of parameters, including, among others, voltage and current. However, Singer et al. clearly state at col. 41, lines 34-35 that this computed resistance value is the estimated resistance of the *disk drive*. (emphasis added) At col. 10, lines 1-21, Singer et al. describe the disk drive 10 as including a "voice coil motor 72 having a rotor (not shown), actuator arm 74, sensor 75, and head 76 . . . all controlled by a disk drive engine 16." Clearly, the resistance value computed by Singer et al. is thus an estimated

resistance of the combination of a number of mechanical and electromechanical components, and not an estimated resistance of an excitation coil. Accordingly, Singer et al. does not meet applicants' claim limitation requiring computation of an effective resistance of the excitation coil as a function of the voltage across, and of the current through, the excitation coil.

Claims 25-45 are believed to be in condition for allowance, and such action is solicited. The Examiner is cordially invited to contact the undersigned by telephone to discuss any unresolved matters.

Respectfully submitted,



Jeffrey A. Michael
Registration No. 37,394
Barnes & Thornburg
11 South Meridian Street
Indianapolis, Indiana 46204-3335
Telephone: (317) 231-7382
Fax: (317) 231-7433

Amendments to the Drawings

The attached sheets of drawings include:

1. A replacement sheet for FIG. 1. This sheet replaces original page 1 of 10 of applicants' drawings.
2. An annotated sheet showing changes made to FIG. 1 in red. In the replacement and annotated sheets for FIG. 1, a horizontal line was added, consistent with FIGS. 2-5, to clearly separate components (22) and (24).
3. A replacement sheet for FIG. 2. This sheet replaces original page 2 of 10 of applicants' drawings.
4. An annotated sheet showing changes made to FIG. 2 in red. In the replacement and annotated sheets for FIG. 2, the original reference number (24) and its associated connecting line have been deleted, and the reference number (20) located just above "FIG. 2" has been changed to (24). This resulting designation of items (22) and (24) is consistent with FIGS. 3-5.

Attachments: Replacement sheet for FIG. 1.
 Annotated sheet showing changes to FIG. 1.
 Replacement sheet for FIG. 2.
 Annotated sheet showing changes to FIG. 2.

(ANNOTATED SHEET)

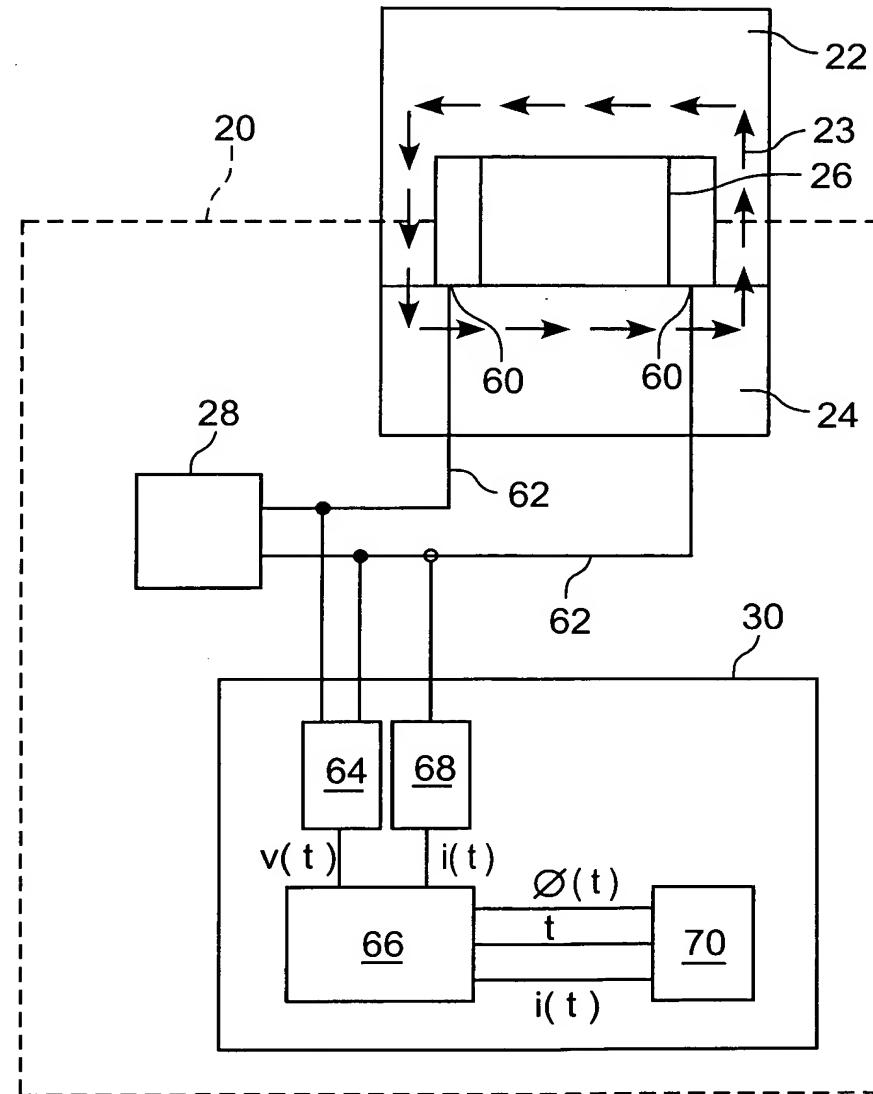


FIG. 1

(ANNOTATED SHEET)

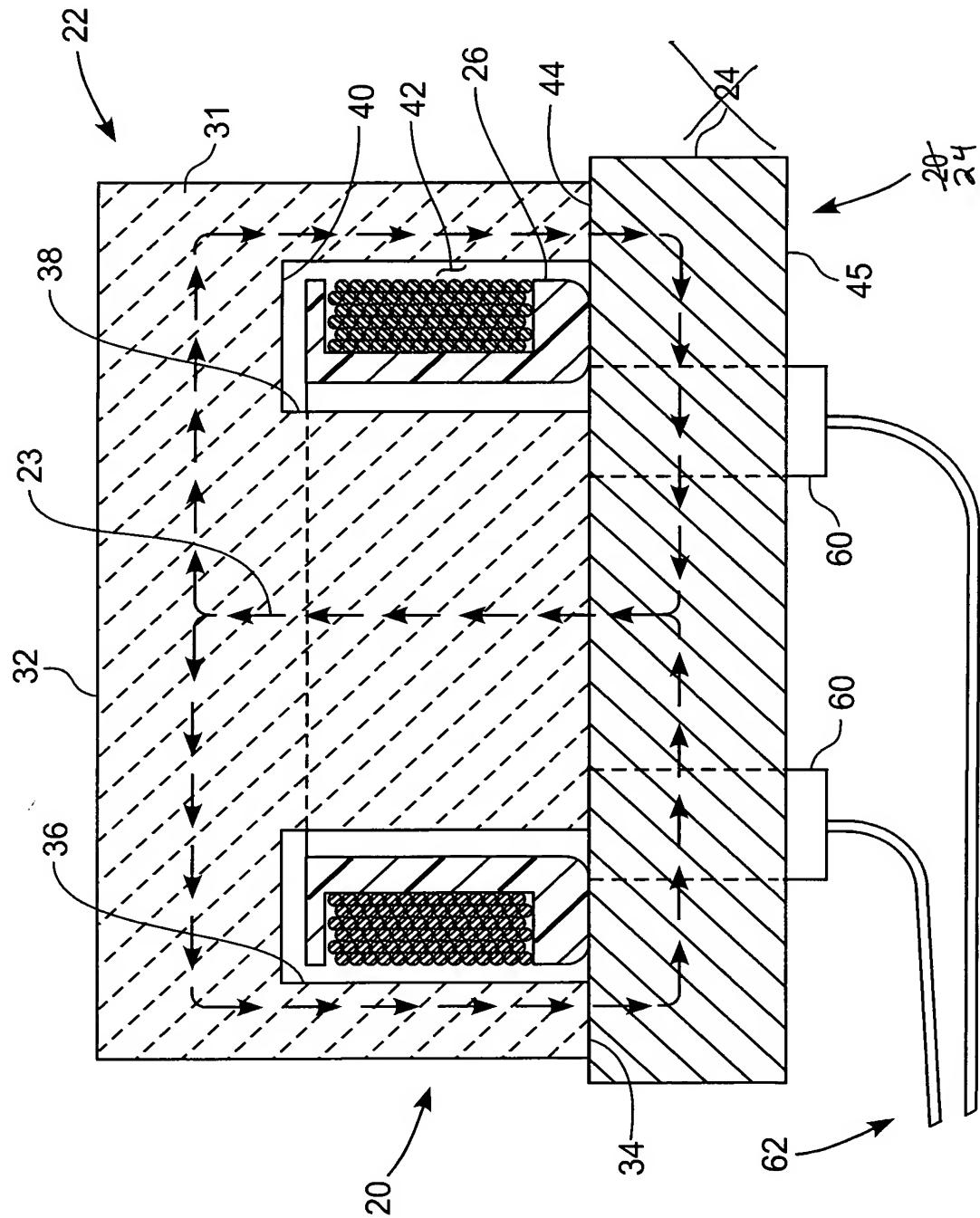


FIG. 2